

IN THE CLAIMS:

1-52. (cancelled)

53. (new) A method for setting toner concentration of a toner particle-carrier particle mixture in a developer station for development of a latent charge image on an intermediate carrier of an electrographic printer or copier, comprising the steps of:

with a sensor arranged in the developer station, measuring toner concentration in the mixture at an installation location of the sensor remote from a location at which toner is extracted for development of the latent image;

with an actuator adjusting toner feed in the developer station;

determining a current toner consumption value for toner particles and correcting that current toner consumption value to adjust for a difference between the sensor installation location and the toner extraction location;

calculating from the toner concentration measured at said sensor installation location and from the corrected toner consumption value a toner concentration at the toner extraction location; and

inputting the calculated toner concentration at the toner extraction location as a control variable to a regulator, and with the regulator controlling the actuator such that the calculated toner concentration at the toner extraction location approaches a desired value.

54. (new) A method according to claim 53 in which the toner consumption value is estimated.

55. (new) A method according to claim 53 in which the actuator is controlled by a combination of a first manipulating variable and a second manipulating variable, whereby the first manipulating variable is proportional to the toner consumption value

and the second manipulating variable is proportional to the measured toner concentration.

56. (new) A method according to claim 55 in which the actuator is controlled by a sum of a first manipulating variable and a second manipulating variable, whereby the first manipulating variable is proportional to the toner consumption value and the second manipulating variable is proportional to the measured toner concentration.

57. (new) A method according to claim 55 in which the first manipulating variable is measured such that it effects a toner feed that corresponds to the current toner consumption value.

58. (new) A method according to claim 55 in which the second manipulating variable is measured such that it regulates the toner concentration to a desired value.

59. (new) A method according to claim 53 in which the toner feed set at the actuator is based on the toner consumption value.

60. (new) A method according to claim 53 in which the toner consumption value is estimated from print data.

61. (new) A method according to claim 60 in which the toner consumption value is estimated from a number of pixels to be printed, weighted with their inking level.

62. (new) A method according to claim 53 in which the toner consumption value is estimated from a number of pixels, weighted with their inking level, that are set in a character generator generating the latent charge image.

63. (new) A method according to claim 62 in which the pixels are counted with aid of an application-specific integrated circuit that is connected with the character generator.

64. (new) A method according to claim 53 in which the toner consumption value is estimated using current consumption of a character generator generating the latent charge image.

65. (new) A method according to claim 60 in which the determined toner consumption value is stored in a data buffer until inking of the corresponding print image.

66. (new) A method according to claim 55 in which a relative weighting of the first and second manipulating variable is carried out in a course of the print or copy process.

67. (new) A method according to claim 66 in which at least one of the second manipulating variable is suppressed in a start phase of the print or copy process and its weighting is increased when a state of the mixture in the developer station has stabilized.

68. (new) A method according to claim 53 in which the regulator comprises a PID controller.

69. (new) A method according to claim 53 in which regulator parameters used by the regulator are varied in a course of the print or copy process.

70. (new) A method according to claim 53 wherein said sensor installation location is also remote from a toner in-feed location.

71. (new) A method according to claim 53 wherein said correcting of said current consumption value corrects a toner charge deviating from a desired value

since a charged state of the toner is dependent on a toner flow rate based on toner consumption.

72. (new) A device for development of a latent charge image on an intermediate carrier of an electrographic printer or copier device, comprising:

a developer station in which a toner particle-carrier particle mixture is located;

a sensor arranged in the developer station at an installation location of the sensor remote from a location at which toner is extracted for development of the latent image, said sensor measuring a toner concentration in the mixture;

an actuator to set a toner feed in the developer station;

a current toner consumption value indicator for the toner particles, and a correction unit that corrects the current toner consumption value to adjust for a difference between the sensor installation location and the toner extraction location;

a regulator for control of the toner concentration and which controls the actuator dependent on a signal of the sensor and dependent on the corrected toner consumption value, and in the regulator a calculator that calculates from the toner consumption measured at said sensor installation location and from the corrected toner consumption value a toner concentration at said toner extraction location; and

the calculated toner concentration at the toner extraction location being input as a control variable into the regulator and the regulator being designed such that it activates the actuator such that the calculated toner concentration at the toner extraction location approaches a desired value.

73. (new) A device according to claim 72 in which the actuator is controlled by a combination of a first manipulating variable and a second manipulating variable, the first manipulating variable being proportional to the toner consumption

value and the second manipulating variable being proportional to the measured toner concentration.

74. (new) A device according to claim 73 in which the first manipulating variable is measured such that it affects a toner feed that corresponds to the current toner consumption value.

75. (new) A device according to claim 73 in which the second manipulating variable is measured such that it regulates the toner concentration to a desired value.

76. (new) A device according to claim 72 in which the toner consumption value is estimated from print data.

77. (new) A device according to claim 76 in which the toner consumption value is estimated from a number of pixels to be printed, weighted with their inking level.

78. (new) A device according to claim 72 in which the toner consumption value is estimated from a number of the pixels weighted with their inking level that are set in a character generator generating the latent charge image.

79. (new) A device according to claim 78 wherein an application-specific integrated circuit connected with the character generator counts the pixels.

80. (new) A device according to claim 78 further comprising a current measurement device to measure the current consumption of the character generator generating the latent charge image and an estimator which estimates the toner consumption value using the current consumption of the character generator.

81. (new) A device according to claim 72 wherein said sensor installation location is remote from a toner in-feed location in the developer station.

82. (new) A device according to claim 72 wherein said correction unit corrects for a toner charge deviating from a desired value since a charge state of the toner is dependent on toner flow rate based on toner consumption.

83. (new) A method for setting toner concentration of a toner particle-carrier particle mixture in a developer station for development of a latent charge image on an intermediate carrier of an electrographic printer or copier, comprising the steps of:

with a sensor arranged in the developer station, measuring toner concentration in the mixture;

with an actuator adjusting toner feed in the developer station;

determining a current toner consumption value for toner particles, the value being estimated from print data, and the determined toner consumption value being stored in a data buffer until inking of the corresponding print image;

calculating from the toner concentration measured at an installation point of the sensor and from the toner consumption value a toner concentration at a location in the developer station at which the toner is extracted for development of the latent image; and

inputting the calculated toner concentration at the toner extraction location as a control variable in a regulator, and with the regulator activating the actuator such that the calculated toner concentration at the toner extraction location approaches a desired value.

84. (new) A method for setting toner concentration of a toner particle-carrier particle mixture in a developer station for development of a latent charge image on an intermediate carrier of an electrographic printer or copier, comprising the steps of:

with a sensor arranged in the developer station, measuring toner concentration in the mixture;

with an actuator adjusting toner feed in the developer station;

determining a current consumption value for toner particles;

calculating from the toner concentration measured at an installation point of the sensor and from the toner consumption value a toner concentration at a location in the developer station at which the toner is extracted for development of the latent image;

inputting the calculated toner concentration at the toner extraction location as a control variable in a regulator, and with the regulator activating the actuator such that the calculated toner concentration at the toner extraction location approaches a desired value; and

the actuator being controlled by a combination of a first manipulating variable and a second manipulating variable, whereby the first manipulating variable is proportional to the toner consumption value and the second manipulating variable is proportional to the measured toner concentration, and wherein a relative weighting of the first and second manipulating variable is carried in a course of the print or copy process.

85. (new) A method according to claim 84 in which at least one of the second manipulating variable is suppressed in a start phase of the print or copy process and its weighting is increased when a state of the mixture in the developer station has stabilized.